

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) In a computerized system that includes a client system, a front-end server, and one or more back-end servers, all interconnected with a communication link, ~~wherein the client system periodically accesses content stored on the one or more back-end servers through the front-end server, and wherein over time the content may be moved from one back-end server to another or may appear to be stored at a back-end server when in fact the content is not stored at that back-end server,~~ a method of transparently redirecting a request for the content such that the client system is unaware of the redirection, the method comprising the front-end server performing the acts of:

receiving a request for the content from the client system, the front-end server making it appear as if the front-end server is the source of the content, which actually is stored at a back-end server;

~~adding a front-end indicator to the request in order to indicate that the front-end server is making the request on behalf of the client system;~~

directing the request to a particular back-end server;

receiving from the particular back-end server, a redirect response identifying one or more other back-end servers where the content is stored;

automatically and without client system intervention, redirecting the request to a redirect back-end server, the redirect back-end server being one of the one or more other back-end servers identified in the redirect response;

receiving the requested content from the redirect back-end server; and

sending the requested content to the client system from the front-end server so that any local caching of the content received from the front-end server remains valid at the client system regardless of which of the one or more back-end servers actually stores the content.

2. (Canceled).

3. (Currently Amended) A method as recited in claim 1 further comprising the act of adding a front-end indicator to the request in order to indicate that the front-end server is making the request on behalf of the client system, wherein the front-end indicator is added to a hypertext transfer protocol User Agent header.

4. (Previously Presented) A method as recited in claim 1 wherein the redirect response identifies a list of back-end servers where the content is stored.

5. (Original) A method as recited in claim 4 wherein the list of back-end servers is identified in a hypertext transfer protocol 305 Use Proxy response from the particular back-end server.

6. (Original) A method as recited in claim 4 further comprising the acts of:
requesting authentication credentials from the client system; and
receiving proper authentication credentials from the client system.

7. (Original) A method as recited in claim 6 further comprising the acts of:
receiving an authentication token that is associated with the authentication credentials; and
using the authentication token as a key for a hash operation to identify the redirect back-end server from the list of back-end servers identified in the redirect response.

8. (Original) A method as recited in claim 1 wherein the redirect response identifies a single back-end server where the content is stored.

9. (Original) A method as recited in claim 8 wherein the single back-end server is identified in either a hypertext transfer protocol 301 Moved Permanently or 302 Moved Temporarily response from the particular server.

10. (Original) A method as recited in claim 1, further comprising the acts of:
receiving the requested content from the redirect back-end server; and
sending the requested content to the client system.

11. (Currently Amended) In a computerized system that includes a client system, a front-end server, and one or more back-end servers, all interconnected with a communication link, ~~wherein the client system periodically accesses content stored on one or more back-end servers through the front-end server, and wherein over time the content may be moved from one back-end server to another or may appear to be stored at a back-end server when in fact the content is not stored at that back-end server,~~ a method of redirecting a request for the content directed to a particular back-end server when the content is not stored at the particular back-end server, the method comprising the back-end server performing the acts of:

receiving a content request from the client system through the front-end server, the content request including a front-end indicator in order to indicate that the front-end server is making the content request on behalf of the client system;

examining the content request for the front-end indicator;

if the front-end indicator ~~having been~~is present in the content request, creating a redirect response to the content request that includes a list of one or more identifying a plurality of redirect back-end servers where the content is stored so that the front-end server can load balance among the plurality of redirect back-end servers capable of satisfying the content request, and otherwise creating a redirect response to the content request that includes a single redirect back-end server where the content is stored; and

sending the redirect response to the front-end server so that the front-end server can redirect the request to ~~the~~ one or more redirect back-end servers.

12. (Original) A method as recited in claim 11 wherein the front-end indicator is added to a hypertext transfer protocol User Agent header.

13. (Original) A method as recited in claim 11 wherein the list of one or more redirect back-end servers is identified in a hypertext transfer protocol 305 Use Proxy response from the particular back-end server.

14. (Currently Amended) In a computerized system that includes a client system, a front-end server, and one or more back-end servers, all interconnected with a communication link, ~~wherein the client system periodically accesses content stored on the one or more back-end servers through the front-end server, and wherein over time the content may be moved from one back-end server to another or may appear to be stored at a back-end server when in fact the content is not stored at that back-end server,~~ a method of transparently redirecting a request for the content such that the client system is unaware of the redirection, the method comprising the front-end server performing:

an act of receiving a request for the content from the client system as if the front-end server were the source of content stored at the one or more back-end servers;

~~an act of adding a front-end indicator to the request in order to indicate that the front-end server is making the request on behalf of the client system;~~

a step for querying a particular back-end server for the requested content, wherein the response to the query identifies one or more other back-end servers where the content is stored, the one or more other back-end servers being either inaccessible or unknown to the client system;

a step for, automatically and without user intervention, retrieving the requested content from a redirect back-end server, the redirect back-end server being one of the one or more other back-end servers identified in the ~~redirect~~ query response; and

an act of sending the requested content to the client system from the front-end server so that any local caching of the requested content received from the front-end server remains valid at the client system even if the requested content later moves from the redirect back-end server or is retrieved from a back-end server other than the redirect back-end server.

15. (Original) A method as recited in claim 14 further comprising a step for authenticating the client system.

16. (Original) A method as recited in claim 15 wherein the query response identifies a list of back-end servers where the content is stored, the method further comprising a step for distributing the request to the redirect back-end server based on the client system authentication.

17. (Original) A method as recited in claim 14 wherein the query response identifies a single back-end servers where the content is stored.

18-24. (Canceled).

25. (Currently Amended) In a computerized system that includes a client system, a front-end server, and one or more back-end servers, all interconnected with a communication link, ~~wherein the client system periodically accesses content stored on the one or more back-end servers through the front-end server, and wherein over time the content may be moved from one back-end server to another or may appear to be stored at a back-end server when in fact the content is not stored at that back-end server,~~ a computer program product for implementing a method of transparently redirecting a request for the content such that the client system is unaware of the redirection, comprising:

- a computer readable medium for carrying machine-executable instructions for implementing the method; and

- wherein said method is comprised of machine-executable instructions for the front-end server performing the acts of:

- receiving a request for the content from the client system, the front-end server making it appear as if the front-end server is the source of the content, which actually is stored at a back-end server;

- ~~adding a front-end indicator to the request in order to indicate that the front-end server is making the request on behalf of the client system;~~

- directing the request to a particular back-end server;

- receiving from the particular back-end server, a redirect response identifying one or more other back-end servers where the content is stored;

- automatically and without client system intervention, redirecting the request to a redirect back-end server, the redirect back-end server being one of the one or more other back-end servers identified in the redirect response;

- receiving the requested content from the redirect back-end server; and

- sending the requested content to the client system from the front-end server so that any local caching of the content received from the front-end server remains valid at the client system regardless of which of the one or more back-end servers actually stores the content.

26. (Canceled).

27. (Original) A computer program product as recited in claim 25, wherein the redirect response identifies a list of back-end servers where the content is stored.

28. (Original) A computer program product as recited in claim 27, the method comprised further of machine-executable instructions for performing the acts of:

- requesting authentication credentials from the client system; and
- receiving proper authentication credentials form the client system.

29. (Original) A computer program product as recited in claim 28, the method comprised further of machine-executable instructions for performing the acts of:

- receiving an authentication token that is associated with the authentication credentials; and
- using the authentication token as a key for a hash operation to identify the redirect back-end server from the list of back-end servers identified in the redirect response.

30. (Original) A computer program product as recited in claim 25, wherein the redirect response identifies a single back-end server where the content is stored.

31. (Currently Amended) In a computerized system that includes a client system, a front-end server, and one or more back-end servers, all interconnected with a communication link, ~~wherein the client system periodically accesses content stored on one or more back-end servers through the front-end server, and wherein over time the content may be moved from one back-end server to another or may appear to be stored at a back-end server when in fact the content is not stored at that back-end server,~~ a computer program product for implementing a method of redirecting a request for the content directed to a particular back-end server when the content is not stored at the particular back-end server, comprising:

a computer readable medium for carrying machine-executable instructions for implementing the method; and

wherein said method is comprised of machine-executable instructions for the particular back-end server performing the acts of:

receiving a request for the content from the client system through the front-end server, the request including a front-end indicator in order to indicate that the front-end server is making the request on behalf of the client system;

examining the content request for the front-end indicator;

if the front-end indicator ~~having been~~ is present in the content request, creating a redirect response to the request that includes a list of one or more identifying a plurality of redirect back-end servers where the content is stored so that the front-end server can load balance among the plurality of redirect back-end servers capable of satisfying the content request, and otherwise creating a redirect response to the content request that includes a single redirect back-end server where the content is stored; and

sending the redirect response to the front-end server so that the front-end server can redirect the request to ~~the~~ one or more redirect back-end servers.

32. (Original) A method as recited in claim 31 wherein the front-end indicator is added to a hypertext transfer protocol User Agent header.

33. (Original) A method as recited in claim 31 wherein the list of one or more redirect back-end servers is identified in a hypertext transfer protocol 305 Use Proxy response from the particular back-end server.

34. (New) A computer program product as recited in claim 25, the method comprised further of machine-executable instructions for performing the act of adding a front-end indicator to the request in order to indicate that the front-end server is making the request on behalf of the client system.